

Notice of Allowability

Application No.

08/805,813

Examiner

Anne R. Kubelik

Applicant(s)

MITSUHARA ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

☒ This communication is responsive to communication filed 9/22/03.

☒ The allowed claim(s) is/are 48, 52-58, 62-67 and 69-70, renumbered 1-7, 9-15, 8 and 16, respectively.

☒ The drawings filed on 26 February 1997 are accepted by the Examiner.

☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some* c) ☐ None of the:

1. ☒ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

(a) ☐ The translation of the foreign language provisional application has been received.

☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**

☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

1) ☐ hereto or 2) ☐ to Paper No. _____.

(b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.

(c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

☐ Notice of References Cited (PTO-892)

5 ☐ Notice of Informal Patent Application (PTO-152)

☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

6 ☒ Interview Summary (PTO-413), Paper No. _____.

☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No. 10/17/03

7 ☒ Examiner's Amendment/Comment

☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

8 ☐ Examiner's Statement of Reasons for Allowance

9 ☐ Other _____.

Examiner's Amendment

1. An extension of time under 37 CFR 1.136(a) is required in order to make an examiner's amendment that places this application in condition for allowance. During a telephone message left on 29 December 2003, Matthew Hinsch requested an extension of time for 4 MONTH(S) and authorized the Commissioner to charge Deposit Account No. 20-1430 the required fee of \$720.00 for this extension and authorized the following examiner's amendment. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

IN THE CLAIMS:

Claims 49 and 68 were cancelled without prejudice.

Claim 48 (currently amended): A method of conferring resistance to pathogenic fungi on a plant, wherein the method [comprising] comprises the steps of:

transforming a plant cell with an expression vector, wherein said expression vector comprises:

an expression cassette comprising a first plant promoter induced by stress operably linked to a DNA sequence encoding Sarcotoxin Ia, wherein a DNA sequence encoding a signal peptide is [fused and] operatively positioned between the first plant promoter and the DNA sequence encoding Sarcotoxin Ia; and

a [second] constitutively expressed plant promoter [which is constitutively expressed and] positioned adjacent to the first plant promoter[,]; and
regenerating the plant cell into a transgenic plant, wherein the transgenic plant has enhanced resistance to pathogenic fungi as compared to a corresponding untransformed plant.

In claim 52 and 57, line 2, "second" was replaced with --constitutively expressed--.

Claim 53 (currently amended): The method according to claim 48, wherein a [plant gene] DNA sequence encoding a plant protein is operatively fused to the DNA sequence encoding Sarcotoxin Ia via [a] the hinge region of [a] the tobacco chitinase gene.

In claims 55-56 and 64-65, line 2, both instances of "a" were replaced with --the--.

Claim 58 (currently amended): A transgenic plant which is resistant to pathogenic fungi, wherein the plant [comprising] comprises an expression vector, wherein the expression vector comprises:

a first expression cassette comprising a DNA sequence encoding Sarcotoxin Ia operably linked to a promoter induced by stress, wherein a DNA sequence encoding a signal peptide is [fused to and] operatively positioned between the promoter induced by stress and the DNA sequence encoding Sarcotoxin Ia; and

a second expression cassette comprising a drug resistance gene operably linked to a constitutively expressed promoter[,];

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wherein the first and second expression cassettes are positioned adjacent to each other, and wherein the transgenic plant has enhanced resistance to pathogenic fungi as compared to a corresponding untransformed plant.

Claim 62 (currently amended): The plant according to claim 58, wherein a [plant gene] DNA sequence encoding a plant protein is operatively fused to the DNA sequence encoding Sarcotoxin 1a via [a] the hinge region of [a] the tobacco chitinase gene.

Claim 69 (currently amended): The method according to claim 48, wherein]the DNA sequence encoding] the signal peptide is the PR-1a signal [sequence] peptide.

Claim 70 (currently amended): The plant according to claim 58, wherein [the DNA sequence encoding] the signal peptide is the PR-1a signal [sequence] peptide.

IN THE ABSTRACT:

The present invention is drawn to a method of conferring resistance to pathogenic fungi on a plant by transformation with a nucleic acid encoding Sarcotoxin 1a operatively linked to a signal peptide, and optionally linked via the hinge region of tobacco chitinase to a plant peptide, and plants thereby obtained [relates to a method for efficiently producing a useful foreign protein in a plant. The present invention also relates to a method for expressing a foreign protein in a plant so as to provide the plant with a new property and to the breeding of a plant. More specifically, the present invention relates to a plant containing a gene encoding an anti-bacterial peptide derived from a Diptera insect and which confers resistance to bacterial and fungal pathogens].

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IN THE TITLE:

PATHOGEN-RESISTANT PLANTS TRANSFORMED WITH A DNA ENCODING
SARCOTOXIN 1A LINKED TO A SIGNAL PEPTIDE AND A METHOD FOR
PRODUCTION THEREOF

2. The following is an examiner's comment: Claims 49 and 68 were cancelled because they fail to further limit parent claims 48 and 58; the method would inherently confer resistance to the listed fungi to plants, and plants transformed with the construct would inherently have resistance to those fungi.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne R. Kubelik, whose telephone number is (703) 308-5059. The examiner can normally be reached Monday through Friday, 8:30 am - 5:00 pm. Approximately January 6, 2004, the examiner's phone number will change to (571) 272-0801.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson, can be reached at (703) 306-3218. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Customer Service at (703) 308-0198.

Anne R. Kubelik, Ph.D.

January 8, 2004



AMY J. NELSON, PH.D.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600